

IN THE CLAIMS

Please amend the claims as follows:

Cancel claims 1-28.

Please add new claims as follows:

29. A gas discharge laser comprising:

a laser chamber containing a laser gas comprising fluorine,  
two elongated electrode elements defining a cathode and an anode, each of the cathode and electrode having a discharge region, said electrodes being opposingly disposed within said laser chamber;  
said anode comprising a first part comprising a first brass alloy having a longitudinal slot having a pair of side walls and a second part comprising a second brass alloy inserted in said slot said second part comprising a discharge region, said discharge region of said second part being covered with a porous insulating layer, having a porosity sufficient to effectively permit electrons to flow freely to and from the metal surface of said second part of said anode while effectively limiting substantial laser-gas-constituent ion interaction with said second part of said anode.

30. The apparatus of claim 29, further comprising:

said second part protruding above said side walls.

31. The apparatus of claim 29, further comprising:

the porous insulating layer comprises fluorine and lead.

32. The apparatus of claim 30, further comprising:

the porous insulating layer comprises fluorine and lead.

33. The apparatus of claim 29, further comprising:

the porous insulating layer comprises lead fluoride.

34. The apparatus of claim 30, further comprising:

the porous insulating layer comprises lead fluoride.

35. The apparatus of claim 29, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

36. The apparatus of claim 30, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

37. The apparatus of claim 31, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

38. The apparatus of claim 32, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

39. The apparatus of claim 33, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

40. The apparatus of claim 34, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

41. The apparatus of Claim 29 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

42. The apparatus of Claim 30 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

43. The apparatus of Claim 31 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

44. The apparatus of Claim 32 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

45. The apparatus of Claim 33 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

46. The apparatus of Claim 34 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

47. The apparatus of Claim 29 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

48. The apparatus of Claim 30 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

49. The apparatus of Claim 31 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

50. The apparatus of Claim 32 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

51. The apparatus of Claim 33 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

52. The apparatus of Claim 34 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

53. The apparatus of claim 47 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

54. The apparatus of claim 48 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

55. The apparatus of claim 49 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

56. The apparatus of claim 50 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

57. The apparatus of claim 51 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

58. The apparatus of claim 52 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

59. The apparatus of claim 47 further comprising most of said holes having widths of

between 20 microns and 250 microns.

60. The apparatus of claim 48 further comprising most of said holes having widths of between 20 microns and 250 microns.

61. The apparatus of claim 49 further comprising most of said holes having widths of between 20 microns and 250 microns.

62. The apparatus of claim 50 further comprising most of said holes having widths of between 20 microns and 250 microns.

63. The apparatus of claim 51 further comprising most of said holes having widths of between 20 microns and 250 microns.

64. The apparatus of claim 52 further comprising most of said holes having widths of between 20 microns and 250 microns.

65. The apparatus of claim 29 further comprising:

said anode has a cross section chosen to produce a high electric field over a width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

66. The apparatus of claim 30 further comprising:

said anode has a cross section chosen to produce a high electric field over a width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

67. The apparatus of claim 31 further comprising:

said anode has a cross section chosen to produce a high electric field over a

width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

68. The apparatus of claim 32 further comprising:

said anode has a cross section chosen to produce a high electric field over a width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

69. The apparatus of claim 33 further comprising:

said anode has a cross section chosen to produce a high electric field over a width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

70. The apparatus of claim 34 further comprising:

said anode has a cross section chosen to produce a high electric field over a width of about 3.5 mm along a centerline of said anode, defining the discharge region of in said second portion of said anode, with a sharp decrease in the electric field on both sides of said discharge region.

71. The apparatus of claim 65, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

72. The apparatus of claim 66, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

73. The apparatus of claim 67, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

74. The apparatus of claim 68, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

75. The apparatus of claim 69, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

76. The apparatus of claim 70, further comprising:

the second brass alloy comprises an alloy of brass that comprises sufficient lead content to form the porous insulating layer and the first brass alloy does not comprise sufficient lead content to form the porous insulating layer.

77. The apparatus of Claim 65 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

78. The apparatus of Claim 66 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

79. The apparatus of Claim 67 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

80. The apparatus of Claim 68 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

81. The apparatus of Claim 69 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

82. The apparatus of Claim 70 wherein said porous insulating layer is created by exposing said anode to electric discharges in a gas environment wherein gas in said gas environment comprises fluorine.

83. The apparatus of Claim 65 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

84. The apparatus of Claim 66 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

85. The apparatus of Claim 67 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

86. The apparatus of Claim 68 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

87. The apparatus of Claim 69 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.



88. The apparatus of Claim 70 further comprising said porous insulating layer comprises holes in said porous insulating layer open to said second part.

89. The apparatus of claim 83 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

90. The apparatus of claim 84 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

91. The apparatus of claim 85 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

92. The apparatus of claim 86 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

93. The apparatus of claim 87 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

94. The apparatus of claim 88 further comprising said holes comprising up to about 5% of the surface area of said porous insulating layer.

95. The apparatus of claim 83 further comprising most of said holes having widths of between 20 microns and 250 microns.

96. The apparatus of claim 84 further comprising most of said holes having widths of between 20 microns and 250 microns.

97. The apparatus of claim 85 further comprising most of said holes having widths of between 20 microns and 250 microns.

98. The apparatus of claim 86 further comprising most of said holes having widths of

between 20 microns and 250 microns.

99. The apparatus of claim 87 further comprising most of said holes having widths of between 20 microns and 250 microns.

100. The apparatus of claim 88 further comprising most of said holes having widths of between 20 microns and 250 microns.